3-year continuation of a quality improvement project to increase identification and referral of children above a healthy weight in a paediatric day case surgical ward

A Hilmi[1], M Koh[1], C Taylor[2], R Wong[2], K Brown[1], F Curran[1], G Udagama[1], K Nicallen-Roeder[1], K Hannen[1], A Zahid[1]

1Tayside Children's Hospital, Ninewells Hospital, NHS Tayside, Dundee, UK. 2Department of Anaesthesia, Ninewells Hospital, NHS Tayside, Dundee, UK

Childhood obesity and its consequences are increasingly recognised in paediatric surgery. The Society for Obesity and Bariatric Anaesthesia gives guidance on consenting children with obesity for increased anaesthetic risks including airway obstruction and difficult facemask ventilation.[1] In NHS Tayside, the Children Healthy Weight Service (CHWS) can provide families with holistic support for obesity, however, discussions with the CHWS revealed underutilisation of the service.

A 2022 audit of the Tayside Children's Hospital day surgery unit found that, although there was an 8% prevalence of obesity (BMI >98th centile), heights and BMI were not routinely recorded. Subsequent efforts to implement routine BMI recording and CHWS referral were limited by rapid staff turnover.[2] We aimed to increase the number of appropriate CHWS referrals by auditing barriers to referral.

Methods

Two 6-week audits were conducted starting on 11/8/25 and 29/9/25, each preceded by interventions including staff education and referral process simplification. Medical staff were to offer CHWS referrals to all families identified obese children, or give a reason for non-referral from a list of 7 choices. In Audit 1, BMIs were calculated only if staff suspected overweight. In Audit 2, BMIs were calculated for all patients without exception.

Results

Nurse adherence to height and weight recording in children age >2 improved from 68% to 94% completion as compared to 2022. Obesity prevalence increased from 8% to 14.8% over the same time.

Audit 1 recorded 6 cases of obesity whereas Audit 2 recorded 17 cases (of 115 patients recorded). Of 23 total cases of obesity, only 3 were successfully referred. 9 days in audit 2 had no BMI data recorded.

Reason for non-referral of identified cases of obesity (20)	**Frequency**
Patient left before workload allowed discussion	6
Parents/carers do not consent	5
Inappropriate referral e.g. Hx eating disorder	3
Referral has been made before today	3
Patient still in theatre at end of shift	3
Did not understand the referral process	0
Referral process too long	0

Fig 1. Reasons for non-referral.

Discussion

The commonest reasons for non-referral reflect the workload and anxiety of an acute ward environment and suggest that lack of staff education is no longer a limiting factor, as it was in cycle 1 in 2022. Audit 2 demonstrates the unreliability of calculating BMI

ad-hoc instead of routinely. 3x more obesity was identified when BMI was routinely calculated, even when 9 days were missed due to medical staff oversight. This QI project can inform subsequent revisions of clerk-in proformas, physical or digital, to make BMI calculation routine practice. It may also support similar CHWS initiatives in calmer, less acute environments such as pre-assessment clinics where referral conversations may be more successful.

Acknowledgements

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References

1. Society for Obesity and Bariatric Anaesthesia UK. Anaesthesia for Children Living with Obesity [Internet]. 2024 [cited 28/01/2026]. Available from: https://www.sobauk.co.uk/_files/ugd/373d41_2314d5da0f2a40bcb6fec9899f1c544a.pdf
2. Suntila N, Fettes P, Reilly L, et al. A quality improvement initiative on childhood healthy weight within the paediatric pre-operative department of a Scottish teaching hospital. Archives of Disease in Childhood [Internet]. 2024;109:A408-A409.

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